MAR-61-A-040695
32X Sound Tool Package
SEGA Enterprises, Ltd.

# 32X SOUND TOOL PACKAGE

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# Introduction

The 32X Sound Tool Package is a sound development tool targeted for the 'Super 32X' megadrive power-up booster (denoted '32X' in this manual). This tool uses a Macintosh host computer and a MIDI interface to enable sound creators and composers to focus solely on the development of sound products. This is an extremely easy-to-use sound development tool in which all programming requirements have been eliminated.

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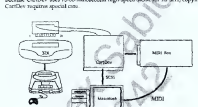
## Hardware Configuration and the Required Preparations

The 32X Sound Tool Package requires the following hardware items.

An Apple Macintosh computer (with an MC68020 CPU or higher)
A 32X Cartridge Development System (hereinafter "CartDev")
A CartDev Audio Interface (hereinafter "MIDI Box")
A SCSI cable
A display (13 inches or larger)
A Mega Drive or a Mega Drive 2
Super 32X

CartDev is supplied with a power supply adapter, a 32Mbit static RAM board (specific to CartDev), and ROM-implemented firmware (Version B61). Because CartDev uses 75-80-nanosecond high-speed ROM for its SH1, copying CartDev requires special care.



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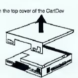
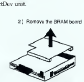
In some versions, the CartDev is supplied as a bare circuit board. When installing these boards, be careful that the back sides of the boards do not come into direct contact with any conducting substances. To install a CartDev, follow the following procedures.

First, check the setting for the main CartDev unit.

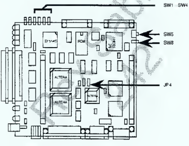
1 ) Open the top cover of the CartDev



2 ) Remove the SRAM board



3) Set the switches on the main board


SW1 SW4
SW5
SW8
ROM
ALTERA
ALTERA
ALTERA
JP4

- Turn the switches SW1-SW4 all off (down).

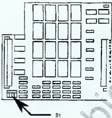
- In SW5, specify the SCSI ID for the CartDev. The ID can be any value between 0 and 7, inclusive, as long as it is unique within the SCSI bus to which the CartDev is connected.
Normally, an ID 7 is assigned to the Macintosh system unit, 0 to the internal Macintosh hard disk, and 3 to the internal Macintosh CD drive. When assigning a new ID, be careful that it does not conflict with any of these pre-assigned IDs.
A duplicate SCSI ID can cause the Macintosh to not start properly, and in the worst case it can destroy the system. Therefore, be extra careful when assigning SCSI IDs.

- SW8 is the switch for the SCSI active terminator that is built into the CartDev. If the CartDev is at the terminus of the SCSI bus, set SW8 to "I", otherwise, set it to "O". If the active terminator is used (an "I" setting), it is not necessary to attach a terminator to the SCSI connector.

- The JP4 (or JP5) switch specifies the device from which serial input is performed. The 1-2 short setting indicates a MIDI input; the 2-3 short setting indicates an RS-232 input. When the CartDev is used in conjunction with the Tone Editor 32X, be sure to set JP4 to the 1-2 short setting, regardless of whether or not a MIDI is used. Because Tone Editor 32X uses only one serial input, the JP5 switch can be in either setting.

If the board silk does not have pin numbers 1, 2, or 3 engraved, the top three pins are pins 1, 2, and 3, when these pins are viewed in the direction of the main board that is illustrated on the preceding page.

3) Set the DIP switches on the SRAM board



- Turn the four switches on the DIP switch S1 all off.

4) This completes the installation of the CartDev unit.

Now, replace the cover.

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## Software Configuration and the Required Preparations

The software for the 32X Sound Tool Package requires the following operating environment:

Operating system: System 7 or Kanji Talk 7 or later
The capability to run 32-bit QuickDraw

The 32X Sound Tool uses MIDI data, which is created by using an off-the-shelf sequencer, to generate performance data for the 32X Sound Driver. Therefore, the 32X Sound Tool requires separate sequence software that runs on the Macintosh. The sequence software must be able to output standard MIDI files.

The products listed below have been verified to be compatible with the 32X Sound Tool Package. SEGA, however, disclaims compatibility between the 32X Sound Tool Package and any other products.

Digital Performer (Mark of the Unicorn, Inc.)
Studio Vision/Studio Vision pro (Opcode Systems, Inc.)
Notator LOGIC (MIDIA CORPORATION)

The 32X Sound Tool Package is supplied with the following software programs:

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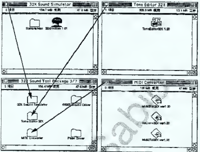
32X Sound Simulator
SampleMan
Tone Editor 32X
ToneEditor32X 1.00
32X Sound Tool Package 3/7
32X Sound Simulator
68000 Sound Driver
Tone Editor 32X
MIDI Converter
PWM Driver
MIDI Converter

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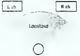
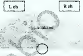
## Qsound

Qsound refers to a 2-channel stereo sound technology developed by Qsound Corporation. Qsound can localize sound images at the outside of two speakers (in the horizontal direction forward from the listener) that are placed in front of the listener. The listening point, however, is limited to the line at the center of the two speakers, headphones do not work well with Qsound.

Ordinary 2-channel stereo



Q Sound



*. Using Qsound requires a separate sub-licensing agreement

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## Overview of the 32X Sound Tool

The 32X Sound Tool has the following configuration

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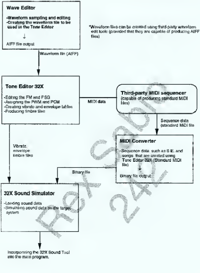
Wave Editor
-Waveform sampling and editing
-Creating the waveform file to be used in the Tone Editor
↓
AIFF file output
Waveform file (AIFF)
Tone Editor 32X
-Editing the FM and PSG
-Assigning the PWM and PCM
-Creating vibrato and envelope tables
-Producing timbre files
MIDI data
Third-party MIDI sequencer
(capable of producing standard MIDI files)
Sequence data (standard MIDI file
Vibrato, envelope timbre files
MIDI Converter
-Sequence data such as S.E. and songs that are created using Tone Editor 32X (Standard MIDI file)
↓
Binary file output
Binary file
32X Sound Simulator
-Loading sound data
-Simulating sound data on the target system
Incorporating the 32X Sound Tool into the main program.

*Waveform files can be created using third-party waveform edit tools (provided that they are capable of producing AIFF files)

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